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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,004	01/30/2002	R. Christopher deCharms	27969-702	7144
21971 7590 09/23/2008 WILSON SONSINI GOODRICH & ROSATI 650 PAGE MILL ROAD PALO ALTO, CA 94304-1050				
EXAMINER				
SMITH, RUTH S				
ART UNIT		PAPER NUMBER		
3737				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/066,004

Applicant(s)

DECHARMS, R. CHRISTOPHER

Examiner

Ruth S. Smith

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-33, 37, 39-45, 47 and 55-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-33, 37, 39-45, 47 and 55-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/29/08,7/15/08,10/2/07,9/18/07,7/3/07.

The supplemental reply filed on September 21, 2007 and September 26, 2007 was not entered because supplemental replies are not entered as a matter of right except as provided in 37 CFR 1.111(a)(2)(ii). The supplemental reply is not limited to placement of the application in condition for allowance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 31-33,37,39-45,47,55-73 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 11/738967. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the current application involve an obvious broadening of the claims in application 11/738,967. Both sets of claims include measuring brain activity and providing feedback to the subject using the measured activity and guiding a task of the subject using the feedback. The elimination of steps would have been obvious to one skilled in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 31-33,37,39-45,47,55-73 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21-44 of copending Application No. 11/270,064. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims include measuring brain activity using fMRI and providing feedback to the subject using the measured activity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 31-33,37,39-45,47,55-73 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14,20-69 of copending Application No. 11/125853. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the current application involve an obvious broadening of the claims in application 11/125,853. Both sets of claims include measuring brain activity and providing feedback to the subject using the measured activity and guiding a task of the subject using the feedback. The elimination of steps would have been obvious to one skilled in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 31-33,37,39-45,47,55-73 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,996,261. Although the conflicting claims are not identical, they are not patentably distinct from each other because Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the current application involve an obvious broadening of the patented claims. The method would have been an obvious use of the device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31,37,39-45,47,55-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toomim et al. Toomim et al disclose measuring brain activity using radio frequency excitation, such as used in MRI, and providing feedback to a patient. Toomim et al further disclose that it is known to use fMRI to measure blood flow in the brain. It would have been obvious to one skilled in the art to have used fMRI in the method of Toomim et al in that such is a well known method to provide blood flow information in areas of the brain. Toomim et al. disclose a computer assisted method and software for communicating feedback and information to a subject suffering from a mental disorder in real time based on measured/determined functional brain activity in a region of interest (such as within the cerebral cortex). The use of computer logic to provide the information is disclosed in column 4, lines 15-38. With regard to claim 64, the fMRI measurements would inherently include at least one of the activities set forth in the claim. Although Toomim et al. does not explicitly disclose the specific type of information provided and the manner in which it is provided such as displaying text or icons, at the time the invention was made, the type of information displayed and the manner in which it is presented would have been an obvious matter of design choice to a person of ordinary skill in the art because applicant has not disclosed that such display of information provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the visual display of image data as taught by Toomim et al. Furthermore, the specific region of interest and its primary function would be an obvious design choice based upon the specific condition being treated. It is a well known expedient in the art to repeat a treatment in order to achieve a desired result.

Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toomim et al in view of Liu et al. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al. disclose a computer assisted method and software for communicating feedback and information to a subject suffering from a mental disorder in real time based on measured/determined functional brain activity in a region of interest (such as within the cerebral cortex). Toomim et al. does not explicitly disclose the number of voxels or volume thereof. Liu et al. generally demonstrates that voxel sizes less than 1x1x1 cm for common imaging modalities are well known. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to obtain measurements from volumes as small as 0.4x0.4x1.0 cm as taught by Liu et al. in the invention as taught by Toomim et al. to obtain highly resolved data for more accurate diagnosis as is well known in the art.

Claims 31-33,37,39-45,47,55-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voyvodic "Real-Time fMRI Paradigm Control" in view of Toomim et al. (5,995,857). Voyvodic discloses the claimed invention substantially as set forth, including obtaining high-resolution fMRI images (inherently including one of the claimed regions of interest, see fig. 3-6) - except for employing a computer/logic to communicate information to the subject in real-time. Toomim et al disclose measuring brain activity using fMRI and providing feedback to a patient. Toomim et al generally demonstrates that it is well established to use a computer/logic to visually communicate feedback to a patient via a display in real- time. The use of computer logic to provide the information is disclosed in column 4, lines 15-38. This feedback would be in a time period of less than 10 seconds from when the measurement is taken. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to use the computer to communicate information directly to the patient via a visual display located in the gantry room in the invention of Voyvodic as taught by Toomim et al to provide continuous feedback regarding the monitored data so as to allow the patient to make quicker adjustments in the measured data. Although Toomim et al. does not expressly disclose the specific type of information provided and the manner in which it is provided such as displaying text or icons, at the time the invention was made, it would have been

an obvious matter of design choice to a person of ordinary skill in the art to display the feedback in the form of text or icons, because applicant has not disclosed that such display of information provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with the visual display of image data as taught by Toomim et al. The modified Voyvodic would be applicable to any type of human central nervous system activity. It is a well known expedient in the art to repeat a treatment in order to achieve a desired result.

Response to Amendment

The declarations under 37 CFR 1.132 filed 9/26/07 and 7/19/07 are insufficient to overcome the rejection of claims 31-33,37,39-45,47,55-73 based upon 35 USC 102 and 35 USC 103 in view of Toomim et al and Voyvodic as set forth in the last Office action because: the declarations merely provide opinion without any evidence provided.

Response to Arguments

Applicant's arguments filed 2/28/07 have been fully considered but they are not persuasive. Toomim et al clearly disclose the use of fMRI to provide measurements of brain activity. The use of optical measurements is merely an example of a testing system. In Toomim et al fMRI is disclosed in column 1 and taking it in combination with the disclosure in column 2, Toomim et al clearly disclose that fMRI can be used to measure brain activity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth S. Smith whose telephone number is 571-272-4745. The examiner can normally be reached on M-F 7:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

RSS